

Sock Road Bridge
(Westphal Bridge)
Spanning Beaver Dam River
Lowell, Wisconsin
Dodge County

HAER No. WI-2

HAER
WIS
14-Low
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D.C. 20240

HISTORIC AMERICAN ENGINEERING RECORD

Sock Road Bridge (also Westphal Bridge)

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Location: Spanning the Beaver Dam River at Sock Road, one mile northwest of the Village of Lowell, in the Town of Lowell, County of Dodge. T10N, R14E; SW 1/4 NW 1/4 Section 10

Date of Construction: 1893

Present Owner: Town of Lowell

Present Use: Vehicular

Significance: One of the oldest metal truss bridges in the State, it may have been one of the earliest truss spans manufactured by the E. Kunert Manufacturing Company (1888-1915) of Watertown, Wisconsin. Offers evidence of manufacturing capacity of a typical small foundry of that period.

Description

A Design Information: Spans
Number: 1
Type: Pratt through Truss
Length: 82'5"
Overall Length: 90'
Lanes: 1
Width: 16' 10"

B. Structural Information: Superstructure Material Source: Jones & Laughlin
Connections: pinned
Field Connections: riveted
Top Chords: 2 up-right channels connected with lacing, stay and cover plates
Bottom Chords: double rectilinear eye bars, forged
End Posts: 2 channels connected with lacing, stay plates and cover plate
Intermediate Posts: 2 channels connected with lacing and stay plates
Diagonals: Double rectilinear eye bars, forged
Counters: Square eye bars, loop welded with threaded ends for turnbuckle
Top Lateral Bracing: Cylindrical rods with threaded ends.
Bottom Lateral Bracing: Cylindrical rods with threaded ends
Top Lateral Struts: Paired angles connected with lacing

Historian: George Danko, August 26, 1977
Robert S. Newbery, February 14, 1980

THE SOCK ROAD BRIDGE

A Pratt Truss Manufactured by the E. Kunert Manufacturing Company
Lowell, Wisconsin

This Pratt truss is one of two bridges in Dodge County which was built by the E. Kunert Manufacturing Company. Erected in 1893, it may be one of the earliest truss spans manufactured by this firm. The bridge is significant because it was built by a smaller Wisconsin bridge builder. The structural details of the bridge offer evidence of the manufacturing capacity of the company's physical plant.

The structure is not significant to its location. There does appear to have been a bridge at this spot as early as 1860, but the village of Lowell never had a railroad connection, nor was Sock Road ever a major wagon or automobile road. Beginning in the late 1870's, the proceedings of the Dodge County Board of Supervisors show an increasing concern with bridge construction and replacement. The Sock Road Bridge was one of two or more bridges agreed to for the Town of Lowell by the Board in 1893. The Board authorized reimbursement of half the costs for these bridges. By 1910 Sock Road was part of Rural Fire Route No. 2.

The E. Kunert Manufacturing Company of Watertown was incorporated in the State of Wisconsin in January, 1883. Daniel Kusel, one of Watertown's leading citizens since 1848, may have been vice-president at one time. The firm initially consisted of a brass and iron foundry, a boiler shop, and machine shop. With these facilities, the company was able to manufacture iron and brass castings, steam boilers, and "machinery of every kind." In the articles of organization the firm's founders also stated that their operations would include the repairing of steam boilers and other machinery, doing steam and gas fitting, and installing castings, boilers, and machinery.

In 1903 the firm changed its name to the Dornfeld-Kunert Company upon the addition of J. F. Dornfeld of Chicago to the board of directors. Consequently, a few years later, in 1912 the company was authorized to transact business in the State of Illinois. In spite of this expansion, the company's stated capital stock never rose above \$75,000.

Until bankruptcy in 1915, the firm was always described in the annual reports as a foundry, machine shop, and structural iron works. In 1906 structural steel was added. However, as early as 1893, the company began to advertise itself as a manufacturer of metal truss bridges, and continued to do so until 1910. Throughout its history, E. Kunert Manufacturing Company was a comparatively small firm, struggling to compete with the larger Milwaukee-based and central states bridge companies.

Many of the span's components appear to be cut to shape manually, rather than formed by machine. The lacing bars, although of the same width, exhibit uneven trimming. The pedestals employ plates on which non-uniform cutting is evident. Slots and openings to accommodate the counters in the intermediate post channels, which normally would be punched by machine, were outlined with a drill and subsequently knocked out by hand.

To cut its expenses, the E. Kunert Manufacturing Company appeared to be making some structural components for its bridges with tools not specifically designed for bridge fabrication. The larger firms could either manufacture such parts in great quantities or order them from a foundry or mill. Because of the large volume of business they did, the more prominent companies could also afford to operate large punching and slotting machinery. E. Kunert, in fact, was obtaining components such as channels and eye bars from other

manufacturers, but it may not have been able to afford the more costly specialized machinery. Thus, where the firm could fabricate parts with its own tools, it readily did so.

The tools the company had on hand were, most likely, those suited for the fabrication of boilers, and for steam and gas fitting. Interestingly, the fact that E. Kunert ventured into truss bridge fabrication underscores the diversity of many of the firms manufacturing metal truss bridges in nineteenth century America. Like the E. Kunert Manufacturing Company, they did not limit their plant operations to the design and fabrication of truss spans.

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Maps

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